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A NEW MUSTELID FROM THE LOWER SIWALIK BEDS OF NORTHERN INDIA

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The American Museum collection of Siwalik fossils, made in the northern Punjab of India by Mr. Barnum Brown, contains a small representation of carnivores, practically all of which belong to previously described genera and species. One fragmentary mandible is, however, of a new species of *Mustela* and it forms the subject of this paper.

Order Carnivora

Family Mustelidae

Mustela lydekkeri, new species[1]

TYPE.—Amer. Mus. No. 19407, a fragmentary mandible containing R and LM_1.

HORIZON AND LOCALITY.—Lower Siwaliks, 200 feet above the level of Chinji Bungalow. Three miles west of Chinji Bungalow, northern Punjab, India.

DIAGNOSIS.—A mustelid comparable in size to the modern *Charronia flavigula*. The lower carnassial is distinguished by its well developed metaconid, and the broad, basined talonid. The protoconid and paraconid form a shearing blade, the axis of which is but slightly inclined to the median axis of the tooth. The ramus is rather heavy, being slightly greater in depth than the length of the lower carnassial.

Except for size, *Mustela lydekkeri* is very much like *Mustela palaeosinensis*, described by Zdansky[2] from the Pliocene of China. In both forms the lower carnassial has a well developed metaconid, and a broad, basined talonid with a prominent inner rim. In *M. lydekkeri*, the metaconid is relatively larger than it is in the Chinese species, an indication of the slightly more primitive nature of the Siwalik form. The close correspondence between *M. lydekkeri* and *M. palaeosinensis* is well illustrated by the ratios of height to length, and of talonid length to total length in M_1, as given in the table below.

Charronia flavigula, the modern Indian marten, is seemingly nearest among living mustelids to *M. lydekkeri*. It differs from the fossil species mainly in the more reduced metaconid and the narrower talonid. The three species, mentioned above, are very close to one another, and *M.*

[1]Named in honor of Richard Lydekker, who first mentioned this form.

[2]Zdansky, Otto. 1924. Jungtertiare Carnivoren Chinas. Pal. Sinica, Ser. C, Vol. 2, Fas. 1, pp. 33–38.

palaeosinensis makes a good intermediate stage between *M. lydekkeri* and *C. flavigula.*

Lydekker[1] described in some detail a lower carnassial tooth in the Cautley collection, designating the specimen as *Mustela* sp., and comparing it with various Tertiary and recent species of the genus. He pointed out the close resemblance between the fossil specimen (B.M. No. 15914) and the recent *Mustela flavigula,* at the same time distinguishing the former from the latter by its larger metaconid and its wider talonid. His description fits perfectly the specimen in the American Museum collection, so it seems safe to assume that the single tooth that was under his observation is identical with the new species described here. It might be well to mention that neither an horizon nor a locality was given for the specimen described by Lydekker. Therefore it is permissible to assume that it came from beds of an age similar to those near Chinji Bungalow.

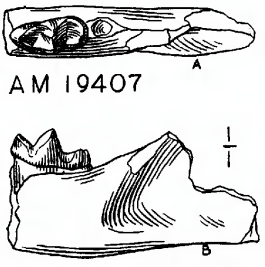

Fig. 1. *Mustela lydekkeri,* new species. Fragment of left mandibular ramus, with first lower molar, and alveolus of second molar. A, crown view. B, side view. Natural size.

A part of Lydekker's description is quoted below.

"In this specimen [B.M. No. 15914], which is represented in the accompanying woodcut (fig. 25), the form of the carnassial is precisely that of the corresponding tooth of *Mustela* proper, so that it may be safely referred to that genus. In size the two remaining teeth, as well as the ramus itself, agree almost exactly with the mandible of the living Indian *M. flavigula;* but the carnassial of the fossil is readily distinguished by the larger size of the inner cusp, and the greater development of the talon, which is relatively longer than in the existing species, being wider than any other part of the tooth. The inner portion of the talon has a distinct rim, which is wanting in the existing species, thus causing the talon to be slightly basin shaped. These differences indicate that the Siwalik form is in all probability specifically distinct from *M. flavigula.* In the form of the carnassial and in general size the specimen is very close to *M. martes;* but the last premolar is considerably shorter than in that species. No other living species appears to come nearer to the fossil."

[1]Lydekker, R. 1885. Cat. Foss. Mam. Brit. Mus., Pt. 1, pp. 177.

TABLE

	Plesictis palustris A.M. 11001	*Mustela lydekkeri* A. M. 19407		*Mustela palaeosinensis* A.M. 26378	*Charronia flavigula* A.M. 84894
		R.	L.		
Length of M_1	7.3 mm.	9.9 mm.	9.4 mm.	13.3 mm.	9.7 mm.
Greatest width of M_1	3.8	4.4	4.3	5.2	4.4
Height of protoconid	4.7	4.8	4.5	6.0	5.3
Height of metaconid	3.0	3.2	3.4	3.8	3.4
Length of talonid[1]	2.8	4.5	4.0	5.3	3.8
Depth of ramus below pr^d	8.2	9.8	9.9	12.0	8.5
Ratio, height of pr^d to length of M_1	64	48	48	47	55
Ratio, length of talonid to length of M_1	38	45	42	43	39

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[1]Measured from the point of the metaconid to the back of the tooth.